DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/1/2010 has been entered.

Claims 1-44 are cancelled. Claims 45-62 are pending and have been considered on the merits herein.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
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> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 45-62 are rejected under 35 U.S.C. 102(e) as being anticipated by Grichko (2004/0253696).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Grichko teaches a process for liquefying starch-containing material comprising treating with at least one alpha-amylase and a maltogenic amylase which has been reduced in size by milling. Grichko also teaches the liquefaction process to be carried out as a multi-step process within the temperature ranges of 80-105°C then 65-95°C and finally between 40-75°C. The starch material is also treated with an esterase such as lipase and phospholipase. The process also comprises liquefying, saccharifying and fermenting using a fermenting microorganism (0008,0009,0012,0022,0023,0025,0038-0063,0085-0098,0109-0112). They teach that a maltogenic amylase is used during any stage, for example liquefaction and/or saccharification. They also teach that liquefaction is commonly carried out with an alpha-amylase, thus adding the maltogenic amylase to

the liquefaction step anticipates liquefying with at least one alpha-amylase and a maltogenic amylase.

Thus, the reference anticipates the claimed subject matter.

Claims 45-48, 51, 54-59 are rejected under 35 U.S.C. 102(b) as being anticipated by each of Veit et al. (WO 02/38787 A2).

Veit teach a process for liquefying starch-containing material comprising treating with at least one alpha-amylase and a maltogenic amylase which has been reduced in size by milling. They also teaches the liquefaction process to be carried out as a multi-step process within the temperature ranges of 80-105℃ then 65-95℃ and finally between 40-75℃ (see Veit p.3-6,p.9,lines 30-p.14 and Olsen p.4,lines 20-35, p.5, lines 1-9, p.12,lines 4-11,p.13, lines 28-p.14). Veit teach reducing starch material, liquefaction, saccharification and fermentation steps.

Thus, the reference anticipates the claimed subject matter.

Response to Arguments

Applicant's arguments filed 11/1/2010 have been fully considered but they are not persuasive. Applicant argues that the references do not teach liquefaction comprising both an alpha-amylase and a maltogenic amylase.

It is the Examiners position that the art of record clearly teaches adding both enzymes during a liquefaction step.

Applicant argues that using both enzymes produces unexpected results such as less retrograded starch and less viscosity which is not recognized by the art.

Viet teaches that the addition of the maltogenic enzymes with the commonly used alpha-amylase provides an improved process of producing ethanol, including overall yield and increased process economy. They also teach enhanced fermentation by reducing residual starch and reduced viscosity (p. 17, lines 20-37). Thus, applicants results are not unexpected provided the teachings of the prior art.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIFFANY GOUGH whose telephone number is (571)272-0697. The examiner can normally be reached on M-F 8-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tiffany M Gough/
Examiner, Art Unit 1651
/Ruth A. Davis/
Primary Examiner, Art Unit 1651